

1 ENERGY MANAGEMENT SYSTEM REQUIREMENTS

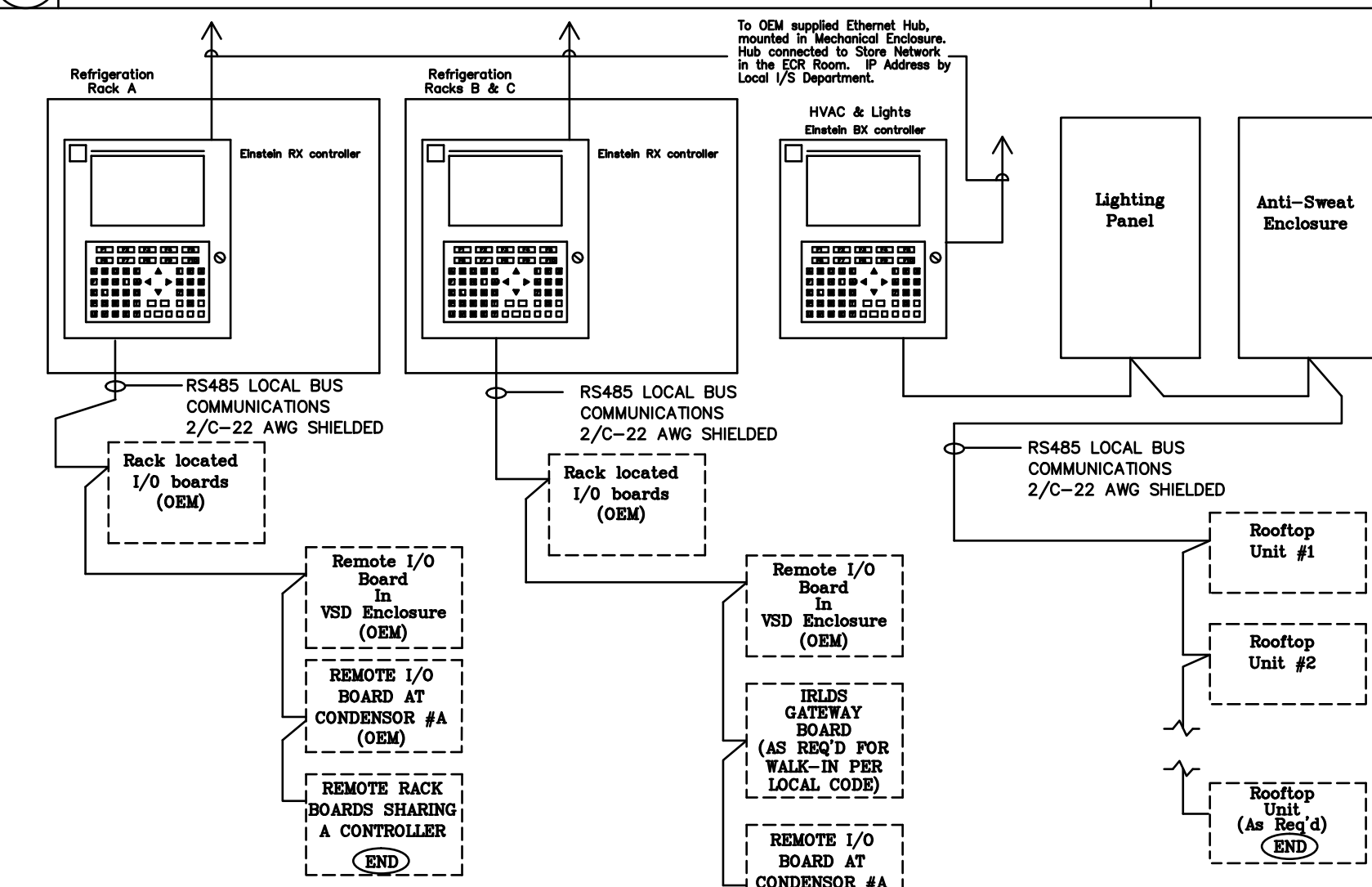
SCALE: NONE

CONTROL TAKEOFF	DESCRIPTION	SUPPLIER PART ID	QTY
REFRIGERANT LEAK DETECTION			
K-000846	2-8RD board w/ red 24V out and enclosure	810-2016	1
K-000923	Gateway BUS	810-3760	1
K-000848	24V Transformer, 50VA 120/208/240V Center Tap - Class 2	640-0056	1
K-0052368	Bacharach 95CH HGMMZ, 5x 1,000 Tubing, 10 High Flow fittings, 2x 8-way splitter connections with line end filter assembly, Machine room binder with technical bulletins and parts guide (Includes Filter Ends)	3015-KIT	1
K-005371	Washdown 3 bar for filter ends.	3015-5748	4
K-005370	Tubing, 1,000' roll (Not for NH3)	TG100	EXTRA IF REQ'D
K-005372	Line End Filter Assembly (Includes filter & tubing connection)	3015-3420	EXTRA IF REQ'D
K-0052397	TYPE BLUE HORN STROBE MTPWB-2475W-NW	BLUE HORN STROBE	1 FOR OFFICES, 1 NEAR IOL, 1 PER MECH ROOM, 1 PER BOX (CODE MAY REQUIRE 2 PER BOX, INSIDE AND OUTSIDE)
LIGHTING CONTACTOR CONTROL			
K-000912	2 MultiFlex 88 boards and 13x13 enclosure, 2 light level sensors	810-1013	1
K-0019685	24V Transformer, 50VA 120/208/240V Center Tap - Class 2	640-0080	1
LIGHTING DIMMING CONTROL			
K-000893	1 88RD board and enclosure	810-1010	1
K-0017680	Fluorescent Dimmer Kit Board, 1/8" JST	604-0400	2
K-0019685	24V Transformer, 50VA 120/208/240V Center Tap - Class 2	640-0080	1
BUILDING CONTROL			
K-0008728	EZE BX400-No Cards (For upgrade of older E1 and RMCC Units)	845-2400	AS REQ'D
K-0008718	EZE BX400-No Cards (For upgrade of older E1 and RMCC Units)	845-1400	AS REQ'D
K-0008822	Indoor Humidity Sensor (2% 12VDC)	203-5751	2
K-0008821	Single Gang One Space Temp Sensor	809-6590	1 PER RTU
K-0008720	Indoor CO2 0-2000 PPM w/5 Display 24VAC	510-2001	2
K-0008852	Immersion Temp probe, 8 inch length, 3/16 inch-14 threads, SS	501-2008	1
K-0008860	PMAC II 28 Channel, 16 Amp per Channel (AMPLIFIED WHEN AMT SWIPTS ARE SEPARATED AT THE CASE AND STORE HAS AN EXISTING CPC)	851-1004	1
K-0008919	20 Green General Purpose Temp Sensor	501-1122	1 PER BOX

KEY NOTE	DESCRIPTION	PLENUM WIRE TYPE	NON-PLENUM WIRE TYPE
◆	HAUX CONNECTION	BELEN R009P R24-0 CATEGORY-5 CABLE OR APPROVED EQUAL	BELEN R009P R24-0 CATEGORY-5 CABLE OR APPROVED EQUAL
◆	RS-485 NETWORK	BELEN R009A R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009A R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	ANALOG TEMPERATURE SENSOR/INPUT	BELEN R009M R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009M R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	DEPRESS TERMINATION SENSOR	BELEN R009N R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009N R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	RELATIVE HUMIDITY SENSOR	BELEN R009R R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009R R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	LIGHT LEVEL SENSOR	BELEN R009S R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009S R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	OUTDOOR TEMPERATURE SENSOR (DROP LEG SENSOR)	BELEN R009T R22-2 SHIELDED CABLE OR APPROVED EQUAL	BELEN R009T R22-2 SHIELDED CABLE OR APPROVED EQUAL
◆	NOT USED		
◆	LIGHTING CONTROL	#4 THREADED PAIR PER LIGHTING CONTACTOR (PLenum RATED)	#4 THREADED PAIR PER LIGHTING CONTACTOR (PLenum RATED)
◆	REFRIGERATION SOLENOID VALVE	BELEN R0790 R2-2 SHIELDED CABLE (PLenum RATED)	BELEN R0790 R2-2 SHIELDED CABLE
◆	NOT USED		
◆	HVAC STAGING CONTROL	2-4RD-10 MULTI-CONDUCTOR CABLE (PLenum RATED)	2-4RD-10 MULTI-CONDUCTOR CABLE
◆	INT HEATER CONTROL	#4 THREADED PAIR (PLenum RATED)	#4 THREADED PAIR
◆	LINE VOLTAGE IN CONDUIT	PER REC. 4 MANUFACTURER'S GUIDELINES	

3 ENERGY MANAGEMENT WIRING SCHEDULE

SCALE: NONE



NOTES:
1. QUANTITY OF RTU'S, REFRIGERATION RACKS AND CONTROL PANELS WILL VARY FROM STORE TO STORE.
2. CONNECTION TO METAL AND TERMINATE RINGS & NETWORK. RS485 NETWORK SHALL BE DASH-CHAINED AND TERMINATED AT EACH END OF THE NETWORK.
3. CPC CONTROLLER TO BE THE SECONDARY TERMINATION POINT OF THE DASH CHAIN. LAST BOARD ON DASH CHAIN TO BE THE DASH TERMINATION POINT. EACH BOARD HAS A SET OF TERMINATING RESISTORS LABELED 'A' & 'B'. ALL 'A' & 'B' TERMINATING RESISTORS TO BE SET TO THE 'OUT' TOWARD THE LEFT SIDE OF THE BOARD POSITION.

2 CONTROLS TAKEOFF

SCALE: NONE

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SCALE: NONE

7 GENERAL SYMBOLS

SCALE: NONE

SYMBOL	DESCRIPTION	HEET #
○	REFRIGERATION CIRCUIT DEMONSTRATION	---
△	DEPRESS TERMINATION DEMONSTRATION	08H
◇	ANALOG TEMPERATURE SENSOR	08H
○	ANALOG TEMPERATURE SENSOR (AVG)	EPG 080-0000008
○	ANALOG RELATIVE HUMIDITY SENSOR	EPG 080-0000000 PRODDOR
○	ANALOG RELATIVE HUMIDITY SENSOR	EPG 080-0000000 PRODDOR
○	LIGHT LEVEL SENSOR	EPG 080R 4 0800000 080-0000000
○	AMBIENT TEMPERATURE SENSOR / SHIELD	080-0000000 / 080-0000000
○	DOOR SWITCH	08H
○	PHASE MONITOR	08H
○	SMOKE DETECTOR	08H
○	CLEAR POWER FIELD INSTALLED BY EG	---
○	KEY NOTE SYMBOL	---
○	LOCAL DOOR ALARM	---
○	LOCAL REFRIGERATION ALARM	---
○	TEMPERATURE SENSOR NUMBER	EPG 080-0000000
○	INTERNAL RTU FUSED AIR TEMPERATURE SENSORS	N/A SUPPLIED BY RTU VENDOR
○	INTERNAL RTU FUSED AIR TEMPERATURE SENSORS	N/A SUPPLIED BY RTU VENDOR
○	AIR FLOW SAIL PROOFING SWITCH	N/A SUPPLIED BY RTU VENDOR
○	SECTION STOP SOLENOID	---
○	EVAPORATOR PRESSURE REGULATOR	---

- THE ENGINEER SHALL BE RESPONSIBLE FOR SUPERVISING THE COMPLETE INSTALLATION OF THE ENERGY MANAGEMENT SYSTEM. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO THE CHECK OF THE INSTALLATION AND PERFORMANCE OF THE SYSTEM. THE ENGINEER SHALL BE RESPONSIBLE FOR THE CHECK OF THE INSTALLATION AND PERFORMANCE OF THE SYSTEM.
- THE ENGINEER SHALL PROVIDE ALL CONNECTIONS BETWEEN THE VARIOUS PANELS, INCLUDING REFRIGERATION RACKS AND ELECTRICAL, TO INSURE THAT ALL EQUIPMENT IS PROPERLY CONTROLLED AND ALL CONTROL POINTS HAVE BEEN ACCURATELY IDENTIFIED. THE ENGINEER SHALL BE RESPONSIBLE FOR THE CHECK OF THE INSTALLATION AND PERFORMANCE OF THE SYSTEM.
- UPON COMPLETION OF THE INSTALLATION, THE ENGINEER SHALL PROVIDE A COMPLETE AND CORRECTLY DOCUMENTED AS-BUILT TO THE OWNER AND THE ENGINEER. THIS DOCUMENTATION SHALL INCLUDE ALL CONNECTIONS BETWEEN THE VARIOUS PANELS, INCLUDING REFRIGERATION RACKS AND ELECTRICAL, TO INSURE THAT ALL EQUIPMENT IS PROPERLY CONTROLLED AND ALL CONTROL POINTS HAVE BEEN ACCURATELY IDENTIFIED. THE ENGINEER SHALL BE RESPONSIBLE FOR THE CHECK OF THE INSTALLATION AND PERFORMANCE OF THE SYSTEM.
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- REFRIGERATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REFRIGERATION RACKS, INCLUDING REFRIGERATION RACKS, CONDENSERS, EVAPORATORS, COILS, REFRIGERATION CONDENSERS, THIS FROM REFRIGERATION CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE REFRIGERATION CONTRACTOR TO INSURE A FULLY OPERATIONAL SYSTEM PER TO GENERAL 42 FOR MORE INFORMATION REFRIGERATION CONTRACTOR RESPONSIBILITIES.
- LOW VOLTAGE DISCONNECT SHALL BE BY THE ENGINEER. ALL OTHER HIGH VOLTAGE DISCONNECTS SHALL BE BY THE GENERAL CONTRACTOR ELECTRICAL CONTRACTOR AND CONNECTED BY THE REFRIGERATION CONTRACTOR.
- REFER TO REFRIGERATION LITERATURE FOR INFORMATION REGARDING THERMAL, VIBRATION, EXHAUSTION, CONDENSERS AND RELAY REQUIREMENTS.

8 ENERGY MANAGEMENT NOTES

SCALE: NONE

THIS SHEET FOR REFERENCE ONLY
SEE PLANS FOR REQUIREMENTS SPECIFIC TO THIS PROJECT